REMARKS

The Examiner's attention to the present application is noted with appreciation.

The Examiner rejected claims 4, 6, 10-12, 20, 22, and 26-28 under 35 U.S.C. Sec. 112, second paragraph, as being indefinite. Claims 4 and 20 have been amended to remove "whereby an amplitude of a signal of interest improved...." Claims 6, 10-12, 22 and 26-28 have been amended to remove the term "substantially." All reference in claims 6 and 22 to "1/f noise" have been removed.

The Examiner rejected claims 1, 8, 9, 13-17, 23-25, and 29-32 under 35 U.S.C. Sec. 102(b) as being anticipated by Curbelo, and claims 2, 3, 18, 19, and 21 as being unpatentable over Curbelo or Curbelo in view of Bennett. The rejections are traversed, especially in view of the claims as amended. The Examiner states that Curbelo teaches the providing of a continuous relative phase shift between the two arms of the interferometer and synchronous lock-in detection. The Examiner also states that Bennett teaches a method and apparatus for measuring differential spectrometric interferograms, including lock-in, synchronous detection.

Claim 1 has been amended to include "spectrally resolved detection," which neither Curbelo nor Bennett teach. Claims 15 and 16 have been amended to include lock-in detection on two or more pixels, which neither Curbelo nor Bennett teach or suggest. In addition, neither Curbelo nor Bennett teaches or suggests the use of lock-in detection to shift the detection frequency to regions where the noise may be lower. Indeed, Curbelo teaches the use of lock-in detection to determine the position relative to a zero crossing.

Claim 16 additionally includes the additional step of displaying the target characteristics from plural differential spectral interferograms. Neither Curbelo nor Bennett teaches or suggests the display of target characteristics where the target is translucent.

Claim 17 has been modified to include differential spectral interferometry of a target and includes

detecting the output from the interferometer synchronously with the phase modulation and "generating a differential spectral interferogram from signals derived by the interferometer at relative phase shifts separated by a phase shift difference." Curbelo and Bennett do not teach or suggest this combination.

Claims 31 and 32 have been amended to include the use of multi-element detectors and differential spectral interferograms, which Curbelo and Bennett, alone or in combination, do not teach or suggest.

Being filed herewith is a Petition for Extension of Time to February 10, 2006, with the appropriate fee. Authorization is given to charge payment of any additional fees required, or credit any overpayment, to Deposit Acct. 13-4213. A duplicate of this paper is enclosed for accounting purposes.

An earnest attempt has been made to respond to each and every ground of rejection advanced by the Examiner. However, should the Examiner have any queries, suggestions or comments relating to a speedy disposition of the application, the Examiner is invited to call the undersigned.

Reconsideration and allowance are respectfully requested.

Respectfully submitted,

PEACOCK MYERS, P.C.

By:_____

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